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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/384,419	08/27/1999	GRAHAM BANK	85874/136	7815

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EXAMINER

NI, SUHAN

ART UNIT PAPER NUMBER

2643

DATE MAILED: 04/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/384,419

Applicant(s)

BANK ET AL.

Examiner

Suhan Ni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 2/5/02.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3 and 5-39 is/are pending in the application.
- 4a) Of the above claim(s) 28-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3, 5-21,23-27 and 33-39 is/are rejected.
- 7) ☒ Claim(s) 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This communication is responsive to the applicant's amendment dated 02/05/2002.
  2. This application contains claims 28-32 drawn to an invention nonelected in Paper No. 9.
- A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

**Claim Objections**

3. Claims 3 and 7-21 are objected to because of the following informalities:

The term "the vibration exciting system" is not proper, since there is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1, 3, 5-13, 17-21, 24-27 and 33-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Azima et al. (US-6,332,029).

Regarding claim 1, Azima discloses a panel-form loudspeaker (81) comprising: a resonant panel-form member (2) and a vibration exciting system (9) on the panel-form member

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and adapted to apply bending wave energy thereto to cause the panel-form member to produce an acoustic output, wherein the vibration exciting system is adapted to apply torsion to the panel-form member (Figs. 18-21) as claimed.

Regarding claims 3 and 33, Azima further discloses the panel-form loudspeaker, wherein the vibration exciter/exciting system is adapted to the resonant panel for applying torsion and shear thereto (Fig. 3), and said vibration exciting system is coupled to the panel to span a plurality of nodal lines in the panel (Figs. 3-7).

Regarding claims 5-6 and 35-39, Azima further discloses the panel-form loudspeaker, wherein the vibration exciting system comprises a suspension (3) on which the panel is mounted as claimed (col. 26, line 12 – col. 27, line 6).

Regarding claims 7-8, 10-13 and 24-27, Azima further discloses the panel-form loudspeaker, that the vibration exciter/exciting system comprises a piezoelectric device attached to a face of the panel (Figs. 18-22).

Regarding claim 9, Azima further discloses the panel-form loudspeaker, wherein the piezoelectric device comprises a mirror-image elements (Fig. 15) as claimed.

Regarding claims 17-21, Azima further discloses that, the vibration exciting system comprises an inertial device (9), which has an inertial mass (25) and is an inertial vibration exciter (27) as claimed (Figs. 14-17).

Regarding claim 34, Azima discloses a loudspeaker comprising a panel-form member (2) mounted on a suspension (3) and a vibration exciter (9) mounted on the panel-form member, wherein the vibration exciter is adapted to apply bending wave energy to the panel-form member for causing acoustic resonance (Fig. 1), the suspension acts as a pivot for supporting the panel-

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form member in a simple fashion and causing nodal lines corresponding to the resonance of the panel-form member to move towards an edge of the member (Figs. 18-21, 26, 28, 30) as claimed.

5. Claims 1 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Parrella et al. (US-5,901,231).

Regarding claim 1, Parrella et al. disclose a panel-form loudspeaker (81) comprising: a resonant panel-form member (36) and a vibration exciting system (37, 38) on the panel-form member and adapted to apply bending wave energy thereto to cause the panel-form member to produce an acoustic output, wherein the vibration exciting system is adapted to apply torsion to the panel-form member (Figs. 6 and 9-11) as claimed.

Regarding claim 23, Parrella et al. further disclose the panel-form loudspeaker, wherein the vibrating exciting system comprising a bimorph piezoelectric device (37, 38, 74-77 and 80-83), which is generally rectangular and orientated diagonally to act as a twister (Figs. 6 and 9-11).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azima et al. (US-6,332,029) in view of Kumada et al. (US-4,352,961).

Regarding claims 14-15, Azima discloses that the panel of the panel-form loudspeaker is made of plastic material (Col. 24, line 1-62). But Azima does not clearly show that the panel-form loudspeaker is transparent as claimed. Kumada discloses a transparent flat panel piezoelectric speaker (Fig. 6), comprising a transparent panel (5), a transparent piezoelectric ceramics (13). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide the transparent panel and the transparent piezoelectric ceramics taught by Kumada, for the panel-form loudspeaker as an alternate choice, for providing a transparent visual effect for a desirable application.

Regarding claim 16, Azima does not clearly show that the piezoelectric device is of PZT as claimed. Since PZT is one of kind piezoelectric material and very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to provide PZT for the piezoelectric device of the loudspeaker as an alternate choice for enhancing the durability for the loudspeaker.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1 and 34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent **6,031,926**. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of U.S. Patent 6,031,926 is similar in scope to at least claims 1 and 34 of U.S. Patent Application (09/384,419) with obvious wording variations.

8. Claims 1 and 34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent **6,144,746**. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 and 6 of U.S. Patent 6,144,746 are similar in scope to at least claims 1 and 34 of U.S. Patent Application (09/384,419) with obvious wording variations.

9. Claims 1 and 34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent **6,307,942**. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 and 3 of U.S. Patent 6,307,942 are similar in scope to at least claims 1 and 34 of U.S. Patent Application (09/384,419) with obvious wording variations.

*Allowable Subject Matter*

10. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Amendment*

11. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is (703)-308-9322, and the number for fax machine is (703)-305-9508. If it is necessary, the examiner's supervisor, **Curtis Kuntz**, can be reached at (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-3900.

  
HUYEN LE  
PRIMARY EXAMINER

SN

April 4, 2002